

WHAT IS CLAIMED IS:

1. An artificially designed antimicrobial peptide that does not occur naturally, wherein the antimicrobial peptide includes a sequence composed of at least 6 contiguous amino acid residues selected from an amino acid sequence constituting laminin binding site (LBS), or said sequence with one or a plurality of amino acid residue(s) conservatively replaced, and

an amino acid sequence that can express antimicrobial activity against at least one kind of bacteria or fungi, and

wherein the total number of amino acid residues is 100 or less.

2. An artificially designed antimicrobial peptide that does not occur naturally, wherein the antimicrobial peptide includes a sequence composed of at least 6 contiguous amino acid residues selected from an amino acid sequence constituting laminin binding site (LBS), or said sequence with one or a plurality of amino acid residue(s) conservatively replaced, and

a partial sequence linked in tandem to the N-terminal and/or C-terminal of said sequence, where the partial sequence is a high basic partial sequence and more than half of amino acid residues constituting the partial sequence composed of 3 or more contiguous amino acid residues are lysine or arginine, and

wherein the total number of amino acid residues is 100 or less.

3. The antimicrobial peptide according to claim 1 or 2, wherein the sequence composed of at least 6 contiguous amino acid residues is a sequence including an amino acid sequence shown in any one of SEQ ID NOs: 1 - 9.

4. The antimicrobial peptide according to claim 1 or 2, wherein the sequence composed of at least 6 contiguous amino acid residues is an amino acid sequence shown in any one of SEQ ID NOs: 1 - 9.

5. The antimicrobial peptide according to any one of claims 1 to 4, wherein the total number of amino acid residues constituting a peptide chain is 20 or less.

6. The antimicrobial peptide according to claim 2 including an amino acid sequence shown in any one of SEQ ID NOs: 10 - 30 or said sequence with one or a plurality of amino acid residue(s) conservatively replaced.

7. The antimicrobial peptide according to claim 2 composed of an amino acid sequence shown in any one of SEQ ID NOs: 10 - 30 or said sequence with one or a plurality of amino acid residue(s) conservatively replaced.

8. The antimicrobial peptide according to any one of claims 1 to 7, wherein at least one amino acid residue is amidated.

9. An antimicrobial agent comprising the antimicrobial peptide of any one of claims 1 to 8, and a pharmaceutically acceptable carrier.

10. An artificially designed polynucleotide that does not occur naturally, comprising a nucleotide sequence encoding the antimicrobial peptide of any one of claims 1 to 8, and/or a nucleotide sequence complementary to said sequence.

11. A method for producing an antimicrobial peptide, the method comprising:
determining a sequence composed of at least 6 contiguous amino acid residues selected from an amino acid sequence constituting laminin binding site (LBS), or said sequence with one or a plurality of amino acid residue(s) conservatively replaced;

designing a peptide chain including said determined sequence and an amino acid sequence that can express antimicrobial activity against at least one kind of bacteria or fungi; and

synthesizing said designed peptide chain.

12. A method for producing an antimicrobial peptide, the method comprising:
determining a sequence composed of at least 6 contiguous amino acid residues selected from an amino acid sequence constituting laminin binding site (LBS), or said sequence with one or a plurality of amino acid residue(s) conservatively replaced;
designing a peptide chain including said determined sequence and a partial sequence linked in tandem to the N-terminal and/or C-terminal of said determined sequence, where the partial sequence is a high basic partial sequence and more than half of amino acid residues constituting the partial sequence composed of 3 or more contiguous amino acid residues are lysine or arginine; and
synthesizing said designed peptide chain.